

**REMARKS**

The Office Action dated April 2, 2009, has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 25, 27-29, 32, 34-37, 40-45, 48-49, 56, 58-59, 61, 66-68, 70-73, 75-78, and 85-90 are currently pending in the application, of which claims 25, 32, 44-45, 48-49, and 85-86 are independent claims. Claims 25, 27, 32, 44-45, 48-49, and 85-86 have been amended, and claims 87-90 have been added, to more particularly point out and distinctly claim the invention. No new matter has been added. Support for the amendments may be found, for example, at page 22, line 11, *et seq.* of the application as filed. Claims 31, 39, 69, and 74 have been cancelled without prejudice or disclaimer. Claims 25, 27-29, 32, 34-37, 40-45, 48-49, 56, 58-59, 61, 66-68, 70-73, 75-78, and 85-90 are respectfully submitted for consideration in view of the following remarks.

Claims 25, 27-28, 31-32, 34-36, 39-45, 48-49, 56, 58-59, 61, 66-67, 69-72, 74-78, and 85-86 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,259,915 of Raith *et al.* (“Raith”) in view of U.S. Publication 2004/0256963 of Proctor (“Proctor”). The Office Action acknowledged that Raith does not disclose all of the features of the rejected claims, but cited Proctor to remedy Raith’s deficiencies. Applicants respectfully submit that the pending claims recite subject matter that was neither disclosed nor suggested in the combination of Raith and Proctor.

Claim 25, from which claims 27-29, 56, 58, and 87 depend, recites an apparatus including a receiver configured to receive a request for communication information from a subscriber terminal. The apparatus also includes a processor configured to provide access to a wireless communication network based on an IEEE 802.11 standard, and to determine and transmit the communication information to the subscriber terminal in response to the request. The communication information includes frequency band information indicating a plurality of frequency bands on which at least one access node portion of the wireless communication network is configured to communicate. The processor is also configured to incorporate the communication information in signaling using a transmission of specific frames to the subscriber terminal. The communication information further includes a frequency channel indicator that indicates the frequency channel used by the apparatus at the respective frequency band.

Claim 32, upon which claims 34-37, 40-43, 59, 61, and 88 depend, recites an apparatus including a processor configured to communicate in a wireless communication network based on an IEEE 802.11 standard, request communication information from at least one access node of the wireless communication network, and receive in response to the request the communication information transmitted from the at least one access node of the wireless communication network. The communication information includes frequency band information indicating a plurality of frequency bands on which the at least one access node is configured to communicate. The communication information is received from said at least one access node by signaling by transmission of specific

frames. The processor is configured to process the received communication information so as to determine, based on the communication information, a communication connection capability of at least part of the at least one access node on the basis of the frequency band information. The processor is also configured to decide on a communication connection changeover for the apparatus by using a processing result. The communication information further includes a frequency channel indicator that indicates the frequency channel used by the at least one access node at the respective frequency band.

Claim 44 recites a computer program embodied on a computer readable storage medium, the program configured to control a processor to perform a process including receiving a request for communication information from a subscriber terminal and determining the communication information, and transmitting the communication information to the subscriber terminal. The communication information includes frequency band information indicating a plurality of frequency bands on which at least one access node in a wireless communication network based on an IEEE 802.11 standard is capable of communication. The process also includes incorporating the communication information in signaling using a transmission of specific frames to said subscriber terminal. The communication information further includes a frequency channel indicator that indicates the frequency channel used by the at least one access node at the respective frequency band.

Claim 45 recites a computer program embodied on a computer readable storage medium, the program configured to control a processor to perform a process, the process including requesting communication information from at least one access node in a wireless communication network based on an IEEE 802.11 standard and receiving in response to the requesting the communication information transmitted from the at least one access node. The communication information includes frequency band information indicating a plurality of frequency bands on which the at least one access node is capable of communication. The communication information is received from at least one access node by signaling by transmission of specific frames. The process also includes processing the received communication information to determine in the subscriber terminal, based on the communication information, a communication connection capability of at least part of the at least one access node on the basis of the frequency band information and the frequency band coverage indicator. The process further includes deciding, in the subscriber terminal, on a communication connection changeover of the subscriber terminal by using a result of the processing. The communication information further includes a frequency channel indicator that indicates the frequency channel used by the at least one access node at the respective frequency band.

Claim 48, from which claims 66-69 and 89 depend, recites a method including receiving a request for communication information from a subscriber terminal and determining the communication information from at least one access node in a wireless communication network based on an IEEE 802.22 standard. The communication

information also includes frequency band information indicating a plurality of frequency bands on which said at least one access node is capable of communication. The method also includes transmitting in response to the request said communication information from said at least one access node to the subscriber terminal by signaling by transmitting specific frames. The communication information further includes a frequency channel indicator that indicates the frequency channel used by the at least one access node at the respective frequency band.

Claim 49, from which claims 70-78 and 90 depend, recites a method including requesting communication information from at least one access node in a wireless communication network based on an IEEE 802.22 standard. The method also includes receiving in response to the requesting the communication information from the at least one access node. The communication information comprises frequency band information indicating a plurality of frequency bands on which said at least one access node is configured to communicate. The communication information is received by signaling by transmission of specific frames. The method further includes processing the received communication information and determining based on the communication information a communication connection capability of at least part of the at least one access node on the basis of the frequency band information and the frequency band coverage indicator and using a processing result for a decision on a communication connection changeover of a subscriber terminal. The communication information further comprises a frequency

channel indicator that indicates the frequency channel used by the at least one access node at the respective frequency band.

Claim 85 recites an apparatus including access providing means for providing access to a wireless communication network based on an IEEE 802.11 standard and receiving means for receiving a request for communication information from a subscriber terminal. The apparatus also includes determining means for determining the communication information and transmitting means for transmitting in response to the request the communication information to the subscriber terminal. The apparatus further includes incorporating means for incorporating the communication information in signaling using a transmission of specific frames to said subscriber terminal. The communication information comprises frequency band information indicating a plurality of frequency bands on which at least one access node portion of the wireless communication network is configured to communicate and a frequency channel indicator that indicates the frequency channel used by the apparatus at the respective frequency.

Claim 86 recites an apparatus including communicating means for communicating in a wireless communication network based on an IEEE 802.11 standard and requesting means for requesting communication information from at least one access node of the wireless communication network. The apparatus also includes receiving means for receiving the communication information transmitted from the at least one access node of the wireless communication network in response to the request. The apparatus further includes processing means for processing the received communication information so as

to determine, based on the communication information, a communication connection capability of at least part of the at least one access node on the basis of the frequency band information. The apparatus also includes deciding means for deciding on a communication connection changeover for the apparatus by using a processing result. The communication information includes frequency band information indicating a plurality of frequency bands on which the at least one access node is configured to communicate and further comprises a frequency channel indicator that indicates the frequency channel used by the at least one access node at the respective frequency band. The communication information is received from said at least one access node by signaling by transmission of specific frames.

Applicants respectfully submit that the combination of Raith and Procter fails to disclose or suggest all of the elements of any of the presently pending claims.

Raith generally discusses a multiple hyperband cellular communications system and multiple hyperband capable mobile stations for operation in the system. The mobile and base stations support multiple hyperband operations including, for example, mobile assisted channel allocation (MACA), mobile assisted handover (MAHO), cell reselection, traffic channel assignment, control channel location and registration. Raith alleges that service quality can be enhanced by bridging multiple hyperbands.

It respectfully submitted that Raith cannot properly be used as a starting point for arriving at the presently claimed invention. Raith is directed to a cellular communication system and not to WLAN and 802.11 systems as claimed. The transition of the measures

described in Raith, *i.e.* measures used in cellular systems, into a WLAN environment is not obviously derivable for a person of ordinary in the art, since there are some significant differences between these architectures. The Office Action has not indicated any disclosure where the usage of cellular-system-based measuring is applicable in a WLAN environment in a manner such that no adaptation work is necessary. Thus, it is respectfully submitted that the proposed modification is non-obvious, since the person of ordinary skill in the art would not have a reasonable expectation of success without undue experimentation.

In connection with the above, it is respectfully submitted that the Office Action has incorrectly applied the cited art to claim 32. In claim 32, the claimed apparatus does not decide on a connection changeover of a communicator (*i.e.* some other device than the apparatus) but of the claimed apparatus itself (claim 32 recites, for example, “the processor is configured to decide on a communication connection changeover for the apparatus by using a processing result”). In the context of Raith, in order to maintain the correspondence alleged in the Office Action, the base station would have to decide on the handover of the base station (not of the mobile station) which is plainly incorrect. Thus, the Office Action’s analysis of claim 32 does not seem to be consistent since in WLAN the UE decides on the changeover. This is also one example of the differences between WLAN and cellular systems as defined in Raith.

Additionally, in Raith, a neighbor list is transmitted in broadcasted communications from the base stations (column 5, line 51, of Raith), and also the MAHO

list is transmitted to the mobile station when the base stations determines the need for handover (column 8, lines 12, *et seq.* of Raith).

In contrast thereto, according to the presently pending claims, a request for communication information is transmitted from the subscriber terminal and received at the AP, and the communication information are transmitted in reaction to this request. For example, claim 32 recites, “request communication information from at least one access node of the wireless communication network” and “receive in response to the request the communication information transmitted from the at least one access node of the wireless communication network.”

Such features are not disclosed in Raith. Specifically, there is no indication that the neighbor or MAHO lists (or comparable information) are transferred to the mobile upon request of the mobile. Instead, as noted above, a neighbor list is transmitted in broadcasted communications from the base stations and the MAHO list is transmitted to the mobile station when the base stations determines the need for handover.<sup>3</sup>

Furthermore, it is also not derivable from Raith for one of ordinary skill in the art to consider the features recited in, for example, claim 32 and identified above. In contrast to the (WLAN based) solution of certain embodiments of the present invention, in the cellular system of Raith there is no need at all for the mobile to request the information used for handover, as it does not trigger a corresponding decision process in the cellular architecture of Raith. Therefore, a person of ordinary skill in the art would not consider this as an obvious implementation based on the teachings of the Raith.

Furthermore, Proctor was also cited, but Proctor does not remedy the above-identified deficiencies of Raith. Proctor generally discusses increasing the range of a wireless local area network (WLAN). More particularly, Proctor discusses that some revisions of 802.11 include a message referred to as the DS parameters set message. In certain embodiments of Proctor, the beacon is only transmitted by the AP, not by client units or stations. The DS parameter of Proctor specifies which channel the direct sequence spread spectrum wave form (802.11b) is transmitted on. Using a frequency translating repeater will, according to Proctor, cause the channel number to be incorrect relative to the DS parameter causing erroneous behavior for the client units or station devices (STA).

Thus, Proctor indicates modifying the transmitted DS parameters set message with the channel number intended for the STA, rather than the channel that is transmitted on from the access point (AP). The translating repeater will then “correct” the message by performing the frequency translation, which will result in the message being retransmitted on the frequency identified in the beacon transmitted from the AP. However, Proctor does not remedy the above-identified deficiencies of Raith. Thus, the combination of Raith and Proctor fails to disclose or suggest all of the features of claim 32, and it is respectfully requested that the rejection of claim 32 be withdrawn.

The distinctions above have been discussed primarily with respect to claim 32. Each of the other independent claims (25, 44-45, 48-49, and 85-86), each of which has its own unique scope, recites at least some similar limitations to those discussed above with

respect to claim 32. Thus, withdrawal of the rejections of claims 25, 44-45, 48-49, and 85-86 is respectfully requested for at least similar reasons to those discussed above.

Claims 27-28, 34-36, 40-43, 56, 58-59, 61, 66-67, 70-72, and 74-78 depend from and further limit claims 25, 32, 48, and 49. Thus, each of claims 27-28, 34-36, 40-43, 56, 58-59, 61, 66-67, 70-72, and 74-78 recites subject matter that is neither disclosed nor suggested in the combination of Raith and Proctor. Claims 31, 39, 69, and 74 have been cancelled without prejudice or disclaimer and consequently their rejections are moot. Thus, it is respectfully requested that the rejections of claims 27-28, 31-32, 34-36, 39-43, 56, 58-59, 61, 66-67, 69-72, and 74-78 be withdrawn.

Claims 29, 37, 68, and 73 were rejected under 35 U.S.C. 103(a) as being unpatentable over Raith, in view of Proctor and further in view allegedly admitted prior art (AP). The Office Action acknowledged that the combination of Raith and Proctor fail to disclose the further limitations of the claims and cited AP to remedy these deficiencies. Applicants respectfully traverse this rejection.

Claims 29, 37, 68, and 73 depend respectively from, and further limit, claims 25, 32, 48, and 49. At least some of the deficiencies of the combination of Raith and Proctor with respect to claims 25, 32, 48, and 49 are discussed above. AP does not remedy the above-identified deficiencies of the combination of Raith and Proctor, and consequently the combination of Raith, Proctor, and AP does not disclose or suggest all of the features of claims 29, 37, 68, and 73.

Additionally, it is respectfully submitted that paragraph [0010] of the pre-grant publication of the present application, cited as AP, has not been admitted to be prior art. However, even if AP were prior art, there is no properly substantiated motivation to combine AP with the other cited art to arrive at the claimed invention. It is improper to use Applicants' own application as the motivation to combine, yet the present invention appears to do so, in that the only citation made is to Applicants' own application. Thus, withdrawal of the rejection is respectfully requested.

For the reasons set forth above, it is respectfully submitted that each of claims 25, 27-29, 32, 34-37, 40-45, 48-49, 56, 58-59, 61, 66-68, 70-73, 75-78, and 85-90 recites subject matter that is neither disclosed nor suggested in the cited art. It is, therefore, respectfully requested that all of claims 25, 27-29, 32, 34-37, 40-45, 48-49, 56, 58-59, 61, 66-68, 70-73, 75-78, and 85-90 be allowed, and that this application be passed to issuance.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the Applicants' undersigned representative at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the Applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,

  
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Petition for Extension of Time  
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